

REMARKS

Claims 1-42 are now pending.

The Examiner is thanked for his kind allowance of claims 2-6, 11-24, 35, and 39.

The 35 U.S.C. §103 Rejection

Claims 1, 7-10, 25, 27-34, 36-38, and 40-42 stand rejected under 35 U.S.C.

§103(a) as being allegedly unpatentable over Tanno (U.S. Pat. No. 5,218,594) in view of Cato et al. (U.S. Pat. No. 4,548,463) and Jacobowitz et al. (U.S. Pat. No. 5,740,145). In addition, dependent claim 26 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Tanno as modified by Jacobowitz, in view of Kawai (U.S. Pat. No. 5,235,661). Especially, the Examiner alleges, in section 6 of the Final Office Action, as follows:

[M]ulti-layered card is a duplication of what is taught by Tanno. As the Applicant suggested, and is disclosed in Swanson reference (cited in this Office Action), increasing data storage area utilizing multi-layered optical medium is well known within one of ordinary skill in the art may contemplate. Accordingly, although Tanno did not explicitly suggest multi-layered recording element, it is the Examiner's view that all the essential teachings for making multi-layered storage medium is disclosed in the Tanno patent.

However, the Applicants respectfully disagree for the following reasons.

According to M.P.E.P. §2143,

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.

Especially, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

Claim 1 defines an apparatus for selectively reading data recorded on an information recording medium comprised by laminated recording layers (multi-layered planer waveguide element). Similarly, claim 7 defines an apparatus for reading data recorded on lamination recording sections, having multi-layered recording layers within each lamination recording section. Claim 25 defines a specific multi-layered recording medium having a lamination of a plurality of waveguides, which contains markers indicating a position of a light injection window. Claims 27, 28, 29, 36, and 40 define method for selectively reading data recorded in a lamination recording section comprised by multi-layered planar waveguide recording layers. As described on page 23, the last paragraph, of the present specification, the laminated recording layers of the present

invention include the core layers and the clad layers that are alternately stacked (see also, for example, the cross-sectional views in FIGS. 2A and 2B of the present specification).

Tanno teaches a plate-shaped member having ridge type optical waveguides **31**. However, in Tanno, the waveguides **31** are aligned in parallel on the substrate **32** (column 6, lines 20-24), and, as apparent from FIG. 4 thereof, the waveguides **31** are arranged side-by-side in *the same layer* and separated each other by grooves formed between the ridges. In addition, the end of each of the waveguides **31** of Tanno serves as the optical coupling portion **30**. That is, although Tanno teaches a plurality of waveguides **31**, its recording medium is still substantially single-layered. Thus, although Tanno may teach “multiple waveguides,” its multiplication is within the same layer, and thus Tanno does not teach or suggest “multi-layered” structure as recited in the claims. The concept and the structure for providing multiple waveguides is different between Tanno and the claimed invention.

In addition, the target medium disclosed in Cato is also a single-layered holographic film **12** formed on the bottom surface of a glass disk **14** (see FIG. 1 of Cato), and the target medium disclosed in Jacobowitz is an optical disc **30** which does not include multi-layered waveguides. Accordingly, any combination of the cited references does not teach or suggest multi-layered planer waveguide having the laminated recording layers, as recited in the claims.

Furthermore, according to the claimed invention, in the multi-layered planar waveguide information recording medium, the coupling state of the input light to a waveguide can be easily detected in a simple manner, as claimed, by detecting the output light (from the guided wave in the recording layer) as well as the scattered light (from the regions other than the recording layer), providing markers indicating a position of a light injection window, or using power levels of the reflected light for alignment, so as to quickly and accurately retrieve data from a target waveguide (recording layer). In addition, the system size and the manufacturing cost can be reduced using the claimed apparatus and method. In a system using a multi-layered recording medium, precise and complex movement of the beam in a three-dimensional space is required, and thus it has not been practical for high-speed data transactions until the present invention. The present invention solves the problem by providing the claimed method and apparatus. None of the cited references addresses such a nature of the problem to be solved as a whole, and none of the cited references teaches or suggests such a function or effect of detecting a target recording layer (waveguide) from among multiple layers in a laminated structure.

Accordingly, it is respectfully requested that the rejection of claims based on Tanno, Cato, and Jacobowitz be withdrawn. In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Dependent Claims

Claims 8-10 depend from claim 7, claims 26 depend from claim 25, claims 30-31

depend from claim 28, claims 32-34 depend from claim 27, claim 37-38 depend from claim 36, and claims 41-42 depend from claim 29, and thus include the limitations of the corresponding independent claims. The argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable at least for the same reasons.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Request for Allowance

It is believed that this Response places the above-identified patent application into condition for allowance. Early favorable consideration of this Response is earnestly solicited.

Allowable Subject Matter

The Examiner is thanked for the kind allowance of claims 2-6, 11-24, 35, and 39. Applicants acknowledge the Examiner's statement of reasons for allowance as set forth in the Office Action. However, Applicants point out that the reasons for allowability of the above referenced claims are not limited to the reasons for allowance as set forth in the Office Action, and that additional reasons for allowability may exist, each of which may be independently sufficient to establish the patentability of one or more pending claims.

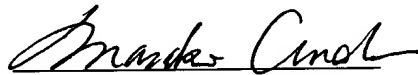
Applicants respectfully reserve the right to introduce, articulate, or otherwise comment on any such additional reasons for allowance as may be appropriate in any future proceedings concerning the claimed invention.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-1698.

Respectfully submitted,
THELEN REID & PRIEST, LLP

Dated: August 11, 2003



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Limited Recognition under 37 CFR §10.9(b)

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UNITED STATE PATENT AND TRADEMARK OFFICE**

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Expires: January 1, 2004

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